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(54) **Driving device of an image display device, program and storage medium thereof, image display device, and television receiver**

(57) A noise adding circuit adds noise data to video data, and a circuit rounds a less significant bit, so as to output video data of 6 bits from 8 bit input data for example. The video data of 6 bits is stored in a frame memory until a further next frame, and a previous frame grayscale correction circuit corrects video data of a previous frame as required so that the video data of the previous frame approaches video data of a further previous frame. It then

outputs thus corrected video data. Further, a modulation processing section corrects video data of a current frame so as to emphasize grayscale transition from the video data of the previous frame which is outputted by the previous frame grayscale correction circuit. Thus, it is possible to realize a driving device of an image display device, which can improve a response speed of pixels and has a simple arrangement, without apparently deteriorating display quality of an image displayed in the pixels.

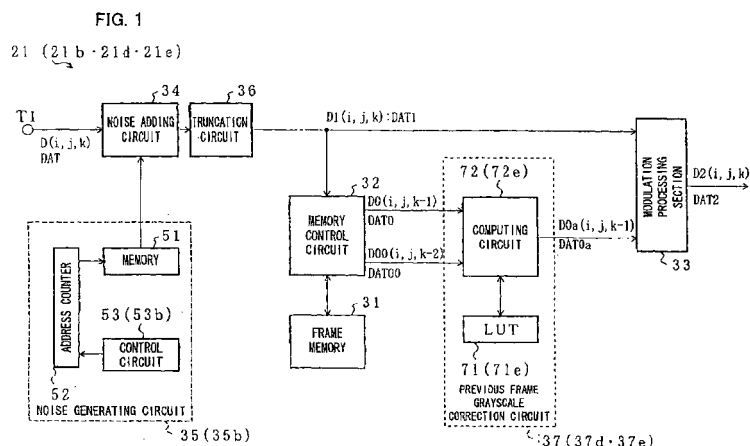
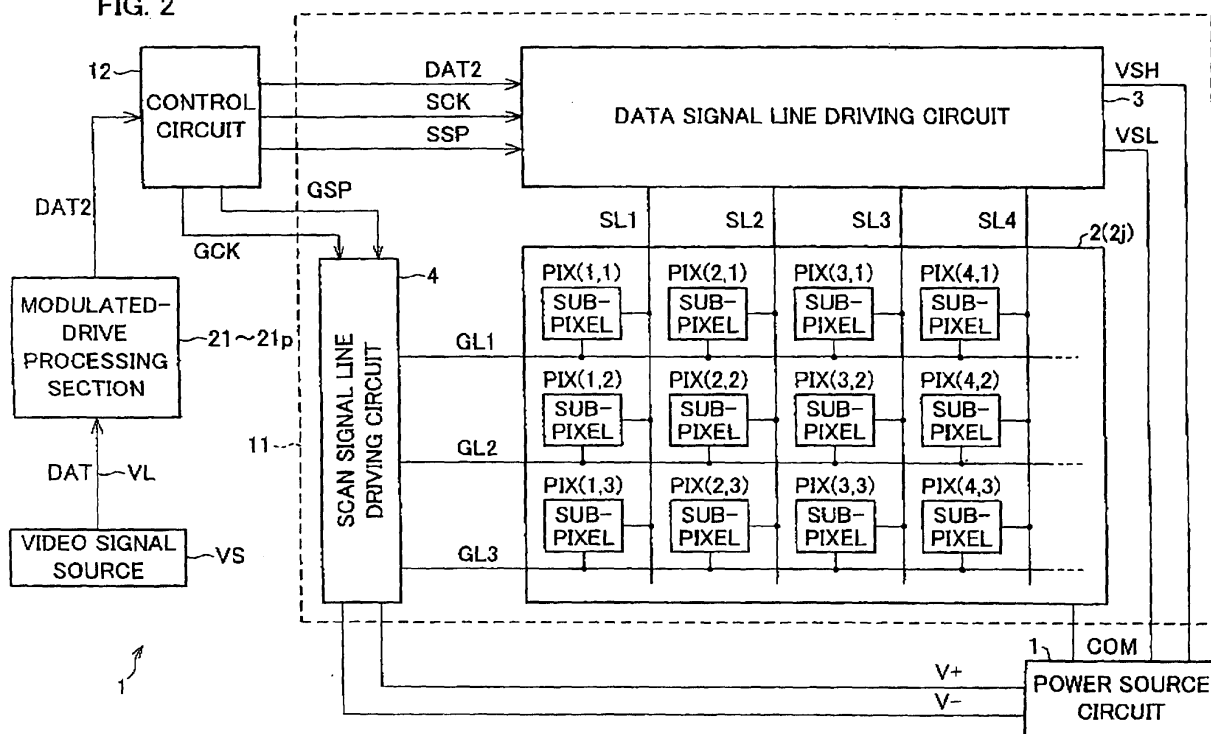


FIG. 2





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 6 052 113 A (FOSTER ET AL) 18 April 2000 (2000-04-18)	1-4,8, 11,12, 16, 25-28, 38,41, 43-50, 54,55, 59,68, 69,71, 72, 74-83, 86,93, 97,98, 102,111, 112,114, 115, 117-125	INV. G09G3/36 ADD. G09G5/02
Y	* column 1, line 59; figure 5 *	23,24, 29-37, 40,42, 70,73, 84,85, 113,119	TECHNICAL FIELDS SEARCHED (IPC)
Y	* column 4, line 4 - line 7; figure 6 * * column 5, line 45 - line 50 * * column 7, line 28 - line 29 * * column 7, line 38 - line 40 * * column 6, line 59 - line 62 * ----- -/--	20,21, 39, 63-65, 107,108	G09G H04N
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 November 2007	Examiner Gundlach, Harald
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	



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EUROPEAN SEARCH REPORT

Application Number
EP 04 25 2014

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	EP 1 122 711 A (SAMSUNG ELECTRONICS CO., LTD) 8 August 2001 (2001-08-08)	1-4,8, 11,12, 16, 25-28, 38,41, 43-50, 54,55, 59,68, 69,71, 72, 74-83, 86,93, 97,98, 102,111, 112,114, 115, 117-125	
	* paragraphs [0004], [0060] - [0063]; figures 9,10 *		

T	BERBECEL, GHEORGHE: "Digital image display: algorithms and implementation" 18 March 2003 (2003-03-18), JOHN WILEY & SONS, CHICHESTER, XP002458864	23,24, 29-37, 40,42, 70,73, 84,85, 113,119	TECHNICAL FIELDS SEARCHED (IPC)
	* page 205, last paragraph - page 206 *		

Y	US 2003/058264 A1 (TAKAKO ADACHI [JP] ET AL) 27 March 2003 (2003-03-27)	20,21, 39, 63-65, 107,108	
	* paragraph [0103]; figures 4a,4b *		

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 November 2007	Examiner Gundlach, Harald
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Application Number
EP 04 25 2014

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 2002/033789 A1 (MIYATA HIDEKAZU [JP] ET AL) 21 March 2002 (2002-03-21)	21,39, 64,65, 108	
Y	* paragraphs [0107] - [0109]; figure 32 *	23,24, 29-37, 40,42, 70,73, 84,85, 113,119	
P,Y	----- US 2003/218591 A1 (SHEN YUH-REN [TW] ET AL) 27 November 2003 (2003-11-27) * paragraph [0026] * -----	23,24, 29-37, 40,42, 70,73, 84,85, 113,119	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 November 2007	Examiner Gundlach, Harald
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.02 (P04C01)

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims:

1-19,25-28,38,41,43-62,68,69,71,72,
74-83,86-105,111,112,114,115,117
-125

(cf. claims 5-7,9-10,13-15,17-19,51-53,56-58,60-62,
94-96,99-102,103-105) stop correcting the current second
tone data when a difference between the previous second tone
data and the current second tone data corresponds to a
possible difference caused merely by addition of the noise
data and variation of the least significant bit that is
performed by the least significant bit control means
to prevent emphasizing tone transitions caused by the noise
data

2. claims: 20-22,39,63-67,106-110

storage of both the current second tone data and the
previous second tone data, the driving device further
comprising second correction means for correcting the
previous second tone data of the first correction means so
that the previous second tone data approaches further
previous second tone data when a combination of the further
previous second tone data and the previous second tone data
stored by the storage means is a predetermined combination
to allow reduction of circuit size

3. claims: 23 - 24, 29 - 37, 40, 42, 84, 85, 70, 73, 113, 116

a possible lowest limit of the tone data having been
subjected to gamma conversion is set to be higher than a
lower limit of a representable value range of the tone data,
said tone data varying according to conversion of the first
tone data
to improve response speed of pixels

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 25 2014

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-11-2007

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